

A NEW SPECIES OF *BRACHYTHECIUM* FROM LATIN AMERICA
(BRACHYTHECIACEAE, MUSCI)¹

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ABSTRACT

Brachythecium cirriphyloides McFarland is described as a new species for Latin America.

KEY WORDS: Musci, Brachytheciaceae, *Brachythecium*, Latin America

Brachythecium cirriphyloides McFarland, *sp. nov.* HOLOTYPE: MEXICO. México: Popocatepetl, on slopes ca. 2,900 m.s.m., March 4, 1932, *H. Froerstrom et E. Hultén s.n.* (MICH!); Isotypes: TENN!,US!

Caules decumbentes vel erecti teretes. Folia sive erecta-imbricata sive reclusa sive incipientia reclusa fieri, profunde concava, longa, late decurrentia, leviter plicata, sive ovata-lanceolata sive late ovata, sive incipientia ovata fieri, et aut gradatim contracta ad longos apices aut late ovata et abrupte constricta ad longos filiformes apices, cum nervo tenui prope medium foliorum; cellulae alares, ab aliis cellulae leniter distinctae, sive quadratae sive rectangulares, extendentes ad decurrentia. Dioicus. Setae dense papillosae; capsula horizontalia, annulus compositus ex duabus seriebus accrescentium cellularum, cilia nodosa vel appendiculata. Cetera ignota.

¹A portion of a dissertation entitled "Revision of *Brachythecium* [Musci] for Mexico, Central America, South America, Antarctica and Circum-subantarctic Islands" submitted by the author to the Graduate School of The University of Tennessee at Knoxville in partial fulfillment of the requirements for the Doctor of Philosophy Degree in Botany.

Plants medium sized to robust, loosely to densely matted. Stems decumbent to erect, terete, infrequently and irregularly to subpinnately branched; branches terete, $\pm$ tapering at tips; pseudoparaphyllia orbicular, long apiculate. Stem leaves 1.6-2.7 X 0.7-1.4 mm, erect-imbricate to open erect and lamina $\pm$ crumpled when dry, becoming smooth when moist, deeply concave, with short to long broad decurrencies, lightly plicate, broadly ovate or broadly cordate-ovate, abruptly constricted into long filiform apices, or ovate-lanceolate with gradually long tapering apices, apices 0.4-0.8 mm long; margins recurved at base, plane above, serrulate to serrate in apices, serrulate or nearly entire below; costae broad at base quickly tapering above and ending near middle (50%) $\pm$ in an inconspicuous spine. Median leaf cells fusiform to linear 53.6-102.6 X 5.7-11.4 μm ; apical cells similar 42.2-115.1 X 5.7-8.0 μm ; basal cells slightly broader, rectangular, pitted 34.2-108.3 X 8.0-19.4 μm ; alar cells not distinctly differentiated, quadrate to rectangular, extending into decurrencies 12.5-47.9 X 8.0-20.5 μm . Branch leaves 1.2-1.9 X 0.4-0.9 mm, concave, slightly decurrent, not plicate, ovate-lanceolate, acuminate; margins serrate. Dioicous. Setae 15.0-20.0 mm long, densely papillose throughout, dark red-brown. Capsules 2.0 X 1.0 mm, horizontal, short oblong-ovoid, curved, dark red-brown; cilia 1-2, nodose to appendiculate; annulus of two rows of inflated cells. Spores 9.9-16.5, finely papillose. The rest unknown.

COMMENTS

Brachythecium cirriphylloides appears confined to Central America and northern South America, growing on moist, shaded soil, tree trunks, and rock. It is distributed in the high mountain ranges: in Boyacá and Cundinamarca, Colombia 3100-3620 m; Quezaltenango and Sacatepequez, Guatemala 2200-3000 m; México, Michoacán, and Veracruz, México 1524-3000 m; and Merida, Venezuela 2900 m.

The species remained anonymous in the literature and among herbarium specimens because it was either left unnamed or misnamed as *Brachythecium alboflavens* auct. div., *B. flexiventrosom* auct. div., or *B. rutabulum* auct. div. Failure to recognize this species was complicated further by its typically sterile condition and marked resemblance to these and other sympatric species.

Brachythecium cirriphylloides is distinguished from other brachythecia in the region by its larger size, dioicous condition, leaves that are broadly cordate-ovate with abruptly formed long apices, small basal and alar cells, and papillose setae. *Brachythecium cirriphylloides* resembles *B. chocayae* Herz. in size, growth form, and general leaf shape and areolation. *Brachythecium chocayae* differs in being autoicous, having setae with low papillae, leaves not as broadly ovate, and lacking abruptly formed apices. *Brachythecium conostomum* (Tayl.) Jaeg. has similar leaf form and dioicous condition, but is smaller with more lax

leaf areolation and smooth setae. *Brachythecium rutabulum* (Hedw.) B.S.G. is similar in growth form, size, papillose setae, and general leaf shape, but differs in being autoicous, having lax basal cells, lax to inflated alar cells, less broadly ovate leaves, and much shorter apices. Robust specimens of *B. stereopoma* (Spruce ex Mitt.) Jaeg. are similar in dioicy, and general leaf form, but differ in the more compact growth form, narrower leaves, shorter apices, larger basal and alar cells, and smooth setae.

Brachythecium cirriphylloides bears some resemblance to *B. curtum* (Lindb.) Limpr., a circumboreal, North Temperate species, in the general leaf form, papillose setae, and appendiculate cilia; however, *B. curtum* is autoicous, with leaves bearing shorter apices, and cells more lax in the basal and alar regions.

There is a certain resemblance between *Brachythecium cirriphylloides* and some taxa in *Cirriphyllum* sensu Grout. They share dioicy, papillose setae, similar plant size, growth form, and concave broadly ovate leaves with filiform apices. However, since the shape and prominence of the opercula are unknown for this species, a more critical and definite comparison with *Cirriphyllum* is reserved at this time.

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